



MSA SafeTOX™ and SafeVOC™ Toxic Gas Monitors [for Homeland Security]

The SafeTox and SafeVOC Toxic Gas Monitors, part of the MSA SafeSite Hazardous Gas Detection System, detect a wide variety of toxic industrial chemicals (TICs) and volatile organic compounds (VOCs), combustible gases or oxygen deficiency within compact, rugged units. The SafeTox and SafeVOC units allow detection of low levels of these potentially toxic chemicals before they become a major threat.

The SafeTox incorporates the reliability of MSA electrochemical and combustible sensors, while the SafeVOC incorporates photoionization (PID) technology for the detection of volatile organic compounds. Both units feature a large LED display, alarm indicator, plus red alarm strobe, amber fault strobe and horn. Signals may also be conveyed to the remote SafeCOM Command Center and the SafeAlert Alarm, both available as options of the MSA SafeSite

Hazardous Gas Detection System.

The compact SafeTox and SafeVOC are easily transported, and may be battery or line-powered. As with other SafeSite Hazardous Gas Detection System components, the SafeTox and SafeVOC may be integrated into the entire wireless system for the reliability and trust that you expect from MSA.

Applications

SafeTOX and SafeVOC monitors can be applied in any application where there is a threat of build-up of toxic and combustible gases or oxygen deficiency. These units utilize electrochemical, combustible, and photoionization sensor technology with wide sensor ranges, along with low minimum detectability and resolution ranges in parts per million.

SafeTOX and SafeVOC monitors are ideal for First Responders and Hazmat teams. They are suitable for

indoor and outdoor applications in virtually any type of industry including refineries, chemical and petrochemical facilities, steel mills, water and waste water, mining and general industry.

Standard Features

- Communicate live readings to the SafeSite's SafeCom Command Center or SafeAlert Plus Alarm unit via a wireless network
- Large, four-digit LED display
- Three levels of alarm
- Internal relay contacts for FAULT, CAUTION, WARNING and ALARM.
- Failsafe fault relay output
- Diagnostics that appear on the display
- Audible alarm
- 4 to 20 mA output
- Use 110-220 VAC AC power or battery with 12-hour run time



Design

All SafeTox and SafeVOC Gas Monitors, regardless of the gas selected for detection, are housed in a rugged, metal enclosure designed for NEMA 4X. With the sensor mounted external to the enclosure, it is easily replaced by simply unscrewing the sensor housing and removing the plug-in sensor. All SafeTox and SafeVOC Monitors are factory calibrated, making them ready for immediate operation.

Operation

SafeTox and SafeVOC Monitors normally operate in the diffusion mode, but also can be specified with an internal pump in applications where it is necessary or more convenient to draw a sample from a remote location. All SafeTox and SafeVOC assemblies are shipped with a unique Sensorgard which protects the sensor from dirt, water, etc., while allowing gas to penetrate into the unit. The Sensorgard also acts as a baffle in windy environments.

Outputs

All SafeTox and SafeVOC Monitors

come standard with a large, 1.75" LED display for local indication of gas readings or any other stored parameter. Additionally, relay contacts are provided for CAUTION, WARNING and ALARM levels.

Calibration

Although the SafeTox and SafeVOC Gas Monitors feature tremendous stability, it is essential, as with all gas monitors, that it be calibrated periodically with the gas of interest to ensure proper operation.

The SafeTox and SafeVOC Monitors reduce the possibility of human error when performing a calibration. Simply activate the calibration mode and follow the instructions on the LED display. It instructs the user when to apply zero and span gas. The SafeTox and SafeVOC Monitors automatically make any necessary adjustments. There is no guesswork with the SafeTox and SafeVOC Gas Monitors. The actual gas readout is displayed during calibration.

When calibration is complete, the SafeTox and SafeVOC Monitors automatically return to normal operation. For convenient record keeping, the



SafeTOX Toxic Gas Monitor

SafeTox and SafeVOC Monitors date stamp the last successful calibration.

Calibrator

The SafeTox and SafeVOC Calibrator offers the Industry its simplest method of calibration. It is an easy-to-use, three-button device that allows calibration of the SafeTox and SafeVOC Monitors.

Specifications

Gas Types:	Combustibles; oxygen; toxics
Temperature Range:	
VOC sensor:	0° to +40°C; +32° to +104°F
Toxics and oxygen:	-20° to +50°C; -4° to +122°F (Range on some models may differ.)
Combustibles:	-40° to +90°C; -40° to +194°F
Drift:	
Zero Drift:	<5%/Yr, typically
Span Drift:	<10%/Yr, typically
Noise:	Less than 1% FS
Accuracy:	
Repeatability:	±1% FS or 2 ppm (VOC)
Linearity:	±2% FS (Combustible; O ₂ ; CO) ±10% FS or 2 ppm (others)
Step Change Response:	T ₂₀ O ₂ and toxics < 12 sec. (Typ. 6 sec.) T ₅₀ O ₂ and toxics < 30 sec. (Typ. 12 sec.) T ₅₀ Combustibles < 8 sec. T ₉₀ Combustibles & VOCs < 20 sec.
Humidity:	0-95% RH, non-condensing
Sensor Life:	
VOC:	>1 year
Combustibles:	3 years typically
Toxics and O ₂ :	2 years typically

Full replacement warranty: 1 year

Hazardous Area Rating:	General Purpose.
Power Input:	110-220 VAC power input, 12 VDC battery
Signal Output:	4-20 mA: 2-wire current source
Digital:	Wireless to Command Center
Internal Relays:	Fault, Caution, Warning, Alarm
Internal Relay Contact Rating:	5 amp @ 125 VAC; 5 amp @ 30 VDC
Battery:	Battery type: 12V lead acid
Battery operating time:	12-hour minimum with no alarm activity
Physical:	
Dimensions:	
Enclosure:	10"W x 12"H x 5"D
Weight:	13 lbs.

Note: This Data Sheet contains only a general description of the product shown. While uses and performance capabilities are described, under no circumstances should the product be used except by qualified, trained personnel, and not until the instructions, labels or other literature accompanying the product have been carefully read and understood and the precautions therein set forth followed. Only they contain the complete and detailed information concerning this product.

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